

Claim 1 recites a semiconductor device comprising a semiconductor substrate; a high-dielectric-constant film on the semiconductor substrate; and a nitride layer on the high-dielectric-constant film, wherein the high-dielectric constant film is selected from film comprised of enhanced dielectric materials including  $\text{Al}_2\text{O}_3$  and  $\text{PrO}_2$ , silicate film derived from said enhanced dielectric materials, film having multi-element materials including a combination of  $\text{Al}_2\text{O}_3$  and  $\text{PrO}_2$ , and film having multi-layered structures including at least two layers of said silicate film.

Claim 13 recites a semiconductor device comprising a semiconductor substrate; a gate insulating film on the semiconductor substrate; and a gate electrode formed on the gate insulating film and including at least a p-type impurity-contained layer, wherein the gate insulating film includes a high-dielectric-constant film and a nitride layer on the high-dielectric-constant film, and wherein the high-dielectric constant film is selected from film comprised of enhanced dielectric materials including  $\text{Al}_2\text{O}_3$  and  $\text{PrO}_2$ , silicate film derived from said enhanced dielectric materials, film having multi-element materials including a combination of  $\text{Al}_2\text{O}_3$  and  $\text{PrO}_2$ , and film having multi-layered structures including at least two layers of said silicate film.

*Bojarczuk, Jr.* discloses a CMOS device being constructed such that a high-K layer 220 is deposited on a substrate 210. A barrier layer 230 is formed on the high-K layer and a gate electrode 240 is formed over the diffusion layer. The barrier layer 230 is an insulating layer selected from, among others,  $\text{Al}_2\text{O}_3$ .

*Bojarczuk, Jr.*, however, fails to disclose, teach, or suggest at least that the high-dielectric constant film is selected from film comprised of enhanced dielectric materials including  $\text{Al}_2\text{O}_3$  and  $\text{PrO}_2$ . Applicant acknowledges that *Bojarczuk, Jr.* discloses that the barrier layer 230 is selected from  $\text{Al}_2\text{O}_3$ . However, *Bojarczuk, Jr.* clearly distinguishes the barrier layer 230 from the high-K layer 220 and does not disclose or suggest that the high-K layer 220 includes  $\text{Al}_2\text{O}_3$ . Thus, a *prima facie* case of anticipation has not been established.

To properly anticipate a claim, the document must disclose, explicitly or implicitly, each and every feature recited in the claim. See Verdegall Bros. v. Union Oil Co. of Calif., 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). *Bojarczuk, Jr.* fails to disclose, teach, or suggest every element recited in independent claims 1 and 13, therefore these claims are not anticipated by *Bojarczuk, Jr.* Accordingly, Applicant respectfully requests that the rejection of claims 1 and 13 under 35 U.S.C. §102 be withdrawn, and these claims be allowed.

Claims 2-4 depend from claim 1, and claims 14 and 15 depend from claim 13. By virtue of this dependency, Applicant submits that claims 2-4, 14, and 15 are allowable for at least the

same reasons given above with regard to their respective base claims. In addition, Applicant submits that claims 2-4, 14, and 15 are further distinguished over *Bojarczuk, Jr.* by the additional elements recited therein, and particularly with respect to each claimed combination. Applicant respectfully requests, therefore, that the rejection of claims 2-4, 14, and 15 under 35 U.S.C. §102 be withdrawn, and these claims be allowed.

**Rejections Under 35 U.S.C. §103**

Claims 5 and 16 were rejected under 35 U.S.C. §103(a) as unpatentable over *Bojarczuk, Jr.* Applicant respectfully traverses this rejection.

Claim 5 depends from claim 1, and claim 16 depends from claim 13. By virtue of this dependency, Applicant submits that claims 5 and 16 are allowable for at least the same reasons given above with regard to their respective base claims. In addition, Applicant submits that claims 5 and 16 are further distinguished over *Bojarczuk, Jr.* by the additional elements recited therein, and particularly with respect to each claimed combination. Applicant respectfully requests, therefore, that the rejection of claims 5 and 16 under 35 U.S.C. §103 be withdrawn, and these claims be allowed.

**Conclusion**

Based on at least the foregoing amendments and remarks, Applicants submit that claims 1-5 and 13-16 are allowable, and this application is in condition for allowance. Accordingly, Applicants request favorable reexamination and reconsideration of the application. In the event the Examiner has any comments or suggestions for placing the application in even better form, Applicants request that the Examiner contact the undersigned attorney at the number listed below.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 18-0013, under Order No. SON-2612/DIV from which the undersigned is authorized to draw.

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Respectfully submitted,

By

Ronald P. Kananen

Registration No.: 24,104

Shawn B. Cage

Registration No.: 51,522

Attorneys for Applicant

**RADER, FISHMAN & GRAUER, PLLC**

Lion Building

1233 20<sup>th</sup> Street, N.W., Suite 501

Washington, D.C. 20036

Tel: (202) 955-3750

Fax: (202) 955-3751

Customer No. 23353

DC211865